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Original Communications.

MANUFACTURE OF GLASS.

THE engraving represents the casting hall, 260 feet long by 156 wide, with the iron bed and roller, which weighs upwards of 20 tons, upon which the glass is rolled into a sheet; the range of annealing furnaces are seen on each side, and the pot arches in the centre. The whole of the building, of which we refer our readers to No. 11, is the work of R. Lane, Esq., architect. The manufacture of glass being the subject of the present paper, we shall commence.

In reducing ores of iron, an art by-the-by of great antiquity, a mass of impurity is

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formed by the chemical union of the silica of the mineral and the lime used as flux, and which impurity is termed "slag." Our readers, who may have been in the neighbourhood of iron furnaces, may have seen heaps of it lying about, having a purple colour and semi-transparent appearance. This "slag" is in fact an impure glass, not unlike the material of which the black wine and porter bottles are now made. From an examination of this substance no doubt sprang the art of glass-making.

We are quite aware that Pliny gives a different account of its origin, tracing its accidental discovery to Phoenician mariners who were wrecked at the mouth of the

Belus, and who, having kindled a fire upon the sand and employed lumps of *natron* to support the cooking apparatus, found masses of glass after their meal, owing to the union of the *silica* of the sand with the alkali in the *natron*. This account is doubtless fabulous.

Glass is a *SALT*, being composed entirely of metallic compounds. This may appear strange to those who have never considered the subject, but we must not forget that so abundantly are metals distributed throughout the globe, that we can scarcely breathe without inhaling metallic vapours, or drink even of the pure spring without imbibing metallic solutions; nay, the condiment most common at the table—we mean salt—is a metallic compound, being a chloride of the metal sodium. Glass, then, is as much a metallic compound as rock salt itself. In order to form this useful material certain articles are essentially necessary. In the first place, we must have the compound called *silica*, an oxide of the metal *silicium*—and an alkali—either *potassa* or *soda* being generally used.

An intense temperature being applied, the *silica* and *soda* or *potassa* unite, and a silicate of the alkali is formed. This glass, however, is so extremely infusible, that it is unfitted for general purposes; and we are obliged to add oxide of lead in the form of *litharge*, or *minium*, to make it more fusible, dense, transparent, and refractive; it also enables the glass to bear more easily sudden changes of temperature. The disadvantages, however, accruing from the employment of lead are sufficiently great to render it desirable to dispense with it if possible. Thus glass containing lead is soft and easily scratched; it is also unequal in its density, and therefore unfitted for optical purposes.

Boracic acid and *borax* are sometimes used as fluxes in glass-making, but being expensive they are employed principally in the manufacture of the artificial gems.

Arsenic, *nitrate potash*, *oxide of manganese*, &c., are employed as decolourising agents; however, an excess of arsenic renders the glass opaque, and the addition of too much manganese produces an unpleasant puce tint. This tint is removed by stirring the molten metal with a pole of wood. In manufacturing plate glass lime is sometimes substituted for oxide of lead. It, however, when added inadvertently, affects its transparency. The mixture of these various materials constitutes a compound called *frit*, which is now ready for the glass furnace. The pots in which the frit is melted are made of *Stourbridge* clay, and, by careful preparation, are enabled to bear with impunity a very high and continued temperature. There are generally six pots in each furnace, which are en-

tirely closed, except at a small orifice on the side, opening into a recess formed by the alternate projections of the masonry and the flues, in which recess the workmen stand. The fuel employed is coal. The furnace is a reverberatory one, so constructed as to allow the flame to play round each pot.

The frit is introduced into the pot through the side openings just mentioned, and after the application of heat for some time it becomes first pasty, and then fuses. The whole process requires about forty-eight hours.

After the glass has been cast or moulded it has next to be annealed, that is, suffered to cool very slowly, or it would be too brittle for use,—flying to pieces with the least change of temperature.

The exact composition of the different kinds of glass is scarcely known. With the following ingredients, however, a very fair sample of each kind may be manufactured:—

FLINT GLASS. Specific gravity about 3.2.
120 parts of fine clear white sand.

40 " purified pearlash.

35 " litharge.

13 " nitre.

A small quantity of black oxide of manganese.

CROWN GLASS, or best window glass.

200 parts of soda.

300 " fine sand.

33 " lime.

250 " ground fragments of glass.

GREEN BOTTLE-GLASS.

100 parts of sand.

30 " coarse kelp.

160 " lixiviated earth of wood-ashes.

30 " fresh wood-ash.

80 " brick clay.

100 " fragments of glass.

PLATE GLASS was invented in 1688, by Abraham Thevart, and was first made in Paris. It contains no lead. The following proportions will give a good result:

300 pounds of fine sand.

200 " soda.

30 " lime.

2 " manganese.

3 ounces cobalt azure.

300 pounds cullet, or broken glass.

We have already, in a preceding article, called the attention of our readers to the pure plate glass, manufactured more especially at the *Pocket Nook Works*, St Helen's, near Liverpool. The great superiority in this case depends undoubtedly upon the purity of the materials manufactured for this purpose on the spot, as much as on the peculiar formula employed by the company.*

* Samples of the glass may be seen at the Company's warehouse, Windmill street, Haymarket.

We shall now refer for a moment to the colouring agents found in glass.

The metals then employed as colouring materials are, 1st. *Gold*. The purple of *cassius* imparts a fine *ruby* tint. 2nd. *Silver*. Oxide, or sulphate of silver, gives a *yellow* colour. 3rd. *Iron*. The oxides of iron produce *blue*, *green*, *yellow*, and *brown*, depending upon the state of oxidization and quantity. 4th. *Copper*. The oxides of copper give a rich *green*; they also produce a *red*, which, when mixed with a small proportion of tarter, tends partially to reduce the oxide. 5th. *Antimony* imparts a rich *yellow*. 6th. *Manganese*. The black oxide of this metal, in large quantities, forms a *black* glass; in smaller quantities, various shades of *purple*. 7th. *Cobalt*, in the state of oxide, gives beautiful *blues* of various shades; and with the *yellow* of antimony or lead it produces *green*. 8th. *Chrome* produces fine *greens* and *reds*, depending on its state of oxidization.

White enamel is merely glass rendered more or less milky or opaque by the addition of oxide of tin; it forms the basis of many of the coloured enamels, which are tinged with the metallic oxides. Directions for the preparation of several good *enamel colours* are given by Mr Wynn, in the 'Transactions of the Society of Arts,' 1817, and 'Philosophical Magazine,' li.

LOUIS XI. AND THE CONSTABLE DE ST POL.

This crafty and cruel Louis the Eleventh is not wholly unknown to the generality of English readers, but the following passages from the last number of 'The Pictorial History of France,' furnish so striking a picture of the heartless course of his policy, that we do not hesitate to transcribe it. St Pol was an ambitious unscrupulous schemer. Louis had resolved to destroy him, but for a time wished to be thought his friend.

"Louis, when dictating a letter to him, in the presence of Lord Howard and the Sieur de Contay, told the constable that, 'to terminate his grand operations, he had occasion for a good head like his.' At this point he interrupted himself, and turning to the Englishman and the Burgundian, said, 'You understand me, I say I want his *head*, I have no occasion for his body.' On the day of the truce of Soleure, Louis presented himself at the gates of St Quentin, and immediately ordered away the officers of the count, with their wives and children. St Pol had anticipated the blow, and had already taken refuge at Mons, in Hainault, where he hoped to find safety. But there Cerisais, with Gaucourt and St Pierre, soon arrived, with the truce of Soleure in their hands, to claim him as an

enemy to the king. The count, whom Charles had already caused to be guarded in his hotel, wrote to the duke, 'his much honoured and great lord,' recommending himself to him as a poor relation, and recalling to mind the recollections of the day of Montlhery. 'Tell him,' exclaimed Charles the Rash, 'that in writing this letter he has wasted his paper, and lost all hope.' Nevertheless, Charles hesitated some time before he could resolve to give him up. He was then entering on the conquest of Lorraine, and Louis had sent to him on the frontier five hundred lances. The king feared that the province once conquered, the constable would escape; the duke feared for his conquest if he first released the pledge he held. Such was the confidence they had in each other! At length, Lorraine being half reduced, Charles gave orders that in eight days the constable should be delivered over to the king. Three hours after the end of the eighth day a counter order was received, but it was too late. The gates of the Bastile closed on the count on the 27th of November; on the 19th of December his trial was terminated; and John de Popincourt, the second president of the parliament, read to him the sentence, which doomed him to be decapitated in the Place de Grève for high treason. He did not expect such severity, and appeared greatly surprised at his impending fate. He, however, said nothing that could be construed into a mark of weakness. 'God be praised!' was his exclamation, 'but this is a very hard decree! I pray him to grant me grace to know him well in this awful day.' Afterwards, turning to M. de St Pierre, he said, 'Ah! Monsieur de St Pierre, it is not this which you have hitherto promised me.' At three o'clock in the afternoon he left the Hotel de Ville and ascended the scaffold. He fell on his knees before the church of Notre Dame, and was for a long time engaged in prayer, kissing, from time to time, with marks of strong devotion, a cross, which a cordelier who attended him presented. He raised himself at length, and a man called Little John, the son of Henry Cousin, the executioner in cases of treason, approached to bind his hands. This he submitted to with great resignation; and turning to the chancellor and the other lords who were on the scaffold, begged of them to pray for his soul. To the populace he addressed the same request, and then knelt on a small square cushion, on which the city arms appeared. While they were bandaging his eyes, he repeated additional prayers, spoke to his confessor, and kissed the cross. Little John, then taking a sword which was handed to him by his father, at one blow brought down the head of the constable.

His body fell at the same moment. The executioner took the head, which he plunged into a sieve of water, and then held it up to the spectators assembled, who were supposed to exceed two hundred thousand in number.

“ Thus fell the Count de St Pol. We pause for one moment to give the subsequent extraordinary story of those ministers of justice, Henry Cousin, and his son, Petit Jean, or Little John. One Oudin du Bust, a carpenter, having claimed some money owing to him on a deed by Little John, received his debt, but was left to bear the expenses of the bond. To revenge himself, he prevailed on some disorderly young men, Du Houx, a sergeant at Mace, John du Foing, a plumber, and Regnault Goris, a silversmith, to assist in gratifying his bloodthirsty rage. The four conspirators having waylaid Little John, meeting him at the corner of the rue des Grenelles, Du Houx took him by the arm in a friendly way, and told him to fear nothing from the others. Goris then approached, and struck Little John on the head a severe blow with a stone. He staggered; Du Houx let go his arm; and Du Foing thrust a javelin into his body. He fell dead on the spot; and Oudin then cut off his legs. The assassins fled, and took sanctuary. It was decided that, as the murder had been pre-concerted, they were not entitled to claim the privilege. They were doomed to die, and all four suffered on the gallows of Paris, being hanged in a row by Henry Cousin, the father of the young man they had murdered.”

THE ART OF WEAVING.

WEAVING, as it is termed by manufacturers, is the art of combining or crossing threads, and interweaving them with one another on different planes, so as to form a cloth. There are many cloths and other fabrics made by merely uniting or combining one thread by looping, as is seen in stockings; other methods of forming a cloth are made (viz. the articles of bobbinet and lace) by machines quite different to the loom, called warp and stocking frames, or machines, of which we shall speak in another paper. The stocking is composed of one continuous thread, made in loops; but, in weaving, the cloth is made of distinct threads—the one called the warp or weft, which runs lengthwise of the piece of cloth; and the other, the woof or weft, which crosses the warp at right angles. To be easily understood, let us explain the most simple mode of weaving common calicoes or Irish linen. Every other thread of the warp is put through a part of the apparatus of the loom, called the harness, which is a series of threads strained be-

tween thin bars of wood or iron, of width and number sufficient to suit the piece of cloth. These threads have in their centre an eye made in the thread, and sometimes of metal or glass—when of the latter materials, they are called mails. For the weaving of the simple fabrics alluded to, two of these harnesses are required; and it is evident that, when every other thread of the warp is passed through one harness, and the other harness is placed immediately behind it, having the remaining threads passed through it, that if one harness is raised up, one-half of the warp is carried with it; and in passing the shuttle through with the weft, it will lay it between the divided warp. At this period, another part of the loom is brought into action, called the batten or lay, the service of which is to batten up the last weft close to that previously laid in. The batten is placed in the front of the loom, and has a swinging motion, on two centres, along the line of threads called the warp. To this is attached a shay or reed, which, to make its form more familiar to the reader, has the appearance of a fine comb, having the teeth held together at the top and bottom. These are made of flattened wire—finer or coarser, according to the quantity of cloth desired. The warp threads pass through the spaces of this comb-like structure the whole of the width of the cloth to be woven; therefore, when it strikes the weft, it lays it close to the side of that previously woven. At the moment the weft is driven home, the opposite harness is risen, and that previously up falls. This action crosses the weft, which circumstance keeps the weft firm in its place, and the shuttle passes back again through the opening made. This operation goes on until the whole piece of cloth is fabricated.

The art of weaving is of earlier date than spinning; for we see, in the savage nations, a cloth made from rushes and stalks of plants. The art of making linen was communicated by the Egyptians of Palestine, and other Eastern nations, to the Europeans. It seems probable that the Gauls learned the art from the Greeks; and from them it came to Great Britain: yet it is stated, on the authority of Julius Caesar, that, when he conquered Britain, the art of weaving was unknown here. In the reign of Richard I., the woollen manufactures became a subject of legislation; and a law was made, A.D. 1197, regulating the sale and fabrication of cloth. Edward III gave great encouragement, by the most wise and judicious offers of reward to foreigners who were well versed in the art of weaving, to come and settle in England: and in the year 1331 two weavers came and settled in York, and, by their superior skill, and communicating their knowledge to

others, made a great improvement in the art. Many Flemish and Dutch weavers came over to this country between two and three centuries since; and their old looms are to be now seen at work in Spitalfields.

The art of weaving did not arrive at its height of perfection until the invention of Jacquard, whose singular event in life we cannot do better than extract from Dr Ure's 'Philosophy of Manufactures':—

"The history of the introduction of the Jacquard-loom is a most instructive lesson on the advantage of free intercourse and rivalry between different countries. The inventor of that beautiful mechanism was originally an obscure straw-hat manufacturer, who had never turned his mind to automatic mechanics, till he had an opportunity by the peace of Amiens of seeing in an English newspaper the offer of a reward by our Society of Arts, to any man who should weave a net by machinery. He forthwith roused his dormant faculties and produced a net by mechanism; but not finding the means of encouragement in the state of his country, he threw it aside for some time, and eventually gave it to a friend, as a matter of little moment. The net, however, got by some means into the hands of the public authorities, and was sent to Paris. After a considerable period, when Jacquard had ceased to think of his invention, the prefect of the department sent for him, and said, 'You have directed your attention to the making of net by machinery?' He did not immediately recollect it, but the net being produced recalled everything to his mind. On being desired by the prefect to make the machine which had led to that result, Jacquard asked three weeks' time for the purpose. He then returned with it, and requested the prefect to strike with his foot on a part of the machine, whereby a mesh was added to the net. On its being sent to Paris, an order was issued for the arrest of its constructor, by Napoleon, in his usual sudden and arbitrary way. He was placed immediately in charge of a *gendarme*, and was not allowed to go to his house to provide himself with necessaries for his journey. Arrived in the metropolis, he was placed in the *Conservatoire des Arts*, and required to make the machine there in the presence of inspectors; an order with which he accordingly complied.

"On his being presented to Bonaparte and Carnot, the former addressed him with an air of incredulity, in the following coarse language:—'Are you the man who pretend to do what Almighty God cannot do, to tie a knot in a stretched string?' He then produced a machine and exhibited its mode of operation. He was afterwards

called upon to examine a loom on which from 20,000 to 30,000 francs had been expended for making fabrics for Bonaparte's use. He undertook to do, by a simple mechanism, what had been attempted in vain by a very complicated one; and taking as his pattern a model machine of Vaucanson, he produced the famous Jacquard-loom. He returned to his native town, rewarded with a pension of 1,000 crowns; but experienced the utmost difficulty to introduce his machine among the silk-weavers, and was three times exposed to imminent danger of assassination. The *Conseil des Prud'hommes*, who are the official conservators of the trade of Lyons, broke up his loom in the public place, sold the iron and wood for old materials, and denounced him as an object of universal hatred and ignominy. Nor was it till the French people were beginning to feel the force of foreign competition that they had recourse to this admirable aid of their countryman; since which time they have found it to be the only real protection and prop of their trade."

The bar-loom was a Swiss invention brought into the neighbourhood of St Etienne by two brothers. They were persecuted for their pains by the ribbon-weavers of the old school, and driven forth into the extremity of misery. The last of them died not long ago in an hospital, a victim of neglect and annoyance. Of late years, however, this loom has become a favourite mechanism, and is in almost universal use among the weavers of the very district where it was long an object of execration.

SCIENTIFIC MEETINGS.

INSTITUTION OF CIVIL ENGINEERS.—A paper by Mr Simms, 'On the Application of Horse Power to raising Water,' gave the results arrived at from the use of nearly a hundred horses, working during stated periods daily, at eleven shafts drawing water by barrels with "gin rolls," from an average depth of 104 feet. The length of time during which horses were employed enabled Mr Simms to make extensive experiments, which were carefully tabulated, with all the attendant circumstances, and the result appeared to be, that rejecting all forced work, horses working constantly for three hours raised 32,943 pounds one foot high in a minute; while, if they were forced to work constantly for six hours, they could only raise 24,360 pounds one foot high in a minute. These results differ materially from the data which have been hitherto received, inasmuch as the eight hour experiments of Boulton and Watt

give 33,000 lbs.; Tredgold, 27,500 lbs.; Sauveur, 34,020 lbs.; and Desagulier, 44,000 lbs. Mr Simms found, that if the horses were worked either a longer time or at a greater speed, they soon died, but that with an average speed, and frequent relays, they bore their work well.

SOCIETY OF ARTS.—Mr Blashfield described the new material for tesselated pavements. Three years ago Mr Frosser discovered that by subjecting a mixture of pulverized felspar and fine clay to a strong pressure between steel dies, the powder was compressed into about one-fourth of its bulk, and became a compact body, much harder and considerably less porous than the common porcelain. The first application of this discovery was to the manufacture of buttons, which are more durable and less expensive than those in ordinary use. When removed from the press, the tesserae are placed in an oven to undergo the process of baking. These tesserae will bear a pressure of forty tons, and have been put to the most severe test in respect to the effect of frost on them, having been immersed in boiling water and then exposed to a temperature of thirty-two degrees. They may also be exposed to a considerable degree of heat, so that flues may be constructed below the tesselated pavements thus formed without causing any injury to them. Blue and green colouring is effected by metallic oxides in the process of baking, but other colours are mixed up before being submitted to pressure. Compact and durable bricks are also made by a similar process, but subjected, of course, to a much greater pressure, which is effected by the use of the hydraulic press. Slabs of elaborate design, and inlaid with coloured devices, suitable for chimney-pieces, &c., are also made by this process, being submitted to a pressure of 250 tons before baking. The subject was illustrated by specimens; and several tesserae were made by the machine and distributed among the company.

PARIS ACADEMY OF SCIENCES.—A voltaic pile recently adopted in Germany, the invention of M. Reiset, was exhibited. There are several glass vases, containing diluted nitric acid, in which floats a cylinder of coal. In this cylinder is placed a vase of porous earth, containing sulphuric acid, which has in it a rolled leaf of amalgamated zinc, each leaf being in communication, by a metallic conductor, with the diaphragm of the adjacent vase of coal. The coal cylinders are made of a mixture of bituminous coal and coke, calcined in a mould, and then passed under a lathe, and dumped with sugared water, and again calcined. The pile exhibited was composed of forty elements. All the experiments performed with it were satisfactory. The

intensity of the current is great, and the expenditure of zinc is small.—MM. Gruby and Delafond communicated a discovery they had made of worms circulating in the blood of an apparently healthy dog. They were found in blood from all parts. Their size is far less than that of the blood discs. Four or five were found in each drop of blood, or about 100,000 in the entire mass. The blood of seventy or eighty dogs had been examined without success before this case; and that of fifteen others had since been examined in vain.

GEOGRAPHICAL SOCIETY.—A paper was read by Mr Higgs, on the progressive rise of the river Thames, as indicated by the necessity for constantly increasing the height of the Thames marsh walls, and by the fact of old causeways, &c., found below the present level of high water in the river, and by other collateral evidence.

ASiATIC SOCIETY.—The Secretary read a Review of the Buddhistical and Jain literature of India, being a continuation of a paper on the Literature of India generally, by Dr Stevenson. The Buddhists and Jains have many features in common. Both use a language not Sanscrit, but closely allied to it, and vie with the Brahmins in their extravagant pretensions to antiquity; though it is fully recognised, that in India at least, the Brahmanical religion is more ancient than that of Buddha. It is true, that the Buddha who appeared in the sixth century before the Christian era, represented himself as a successor of others who had preached the same doctrines for many ages before; but the Brahmanical traditions contained in the Puranas show the origin of this assumption. Buddhistical works are now principally found in Nepal or Ceylon; the former in Sounserit or Thibetan, the latter in Pali.—A short extract was read from the Dulva, a Thibetan work on Baudha Philosophy. The Mahawanso, translated by the Hon. Mr Turnour, is a valuable historical document, though it requires much pruning of silly fables, and may be suspected as to matters occurring before the sixth century B. C.

HORTICULTURAL SOCIETY.—Mrs Lawrence exhibited a handsome specimen of *Columnnea scandens*, its light-green foliage drooping gracefully around the pot, and each shoot bearing at its extremity large light crimson flowers; *Oncidium bifolium*, with a small, chocolate-spotted perianth, and a large, bright yellow labellum; *Brassavola glauca*, in excellent health, which appeared to be owing to its being grown in earth instead of upon a block of wood.—From Sir G. Beaumont, Bart., a fair specimen of the Queen Pine, weighing 3 lbs. 10 oz., sent for the purpose of showing that fruit of this variety may be well swelled in winter, if kept at a low temperature;

the plant from which the present fruit was cut having been grown in a house never higher than from fifty to fifty-five degrees by night, and from sixty to sixty-five degrees by day, unless under powerful sun-shine.

COLOURING DAGUERREOTYPE PICTURES.

MR BEARD has succeeded in making very great improvements in the art of colouring Daguerreotypes. Some very beautiful specimens of groups and portraits were shown at the Polytechnic Institution at a private view on Wednesday. So perfect, indeed, were some of the subjects as to the detail in colour, that they appeared nearly as sharp as is seen in the Camera. The coloured portraits are very little more cost than those originally taken. There is also a great improvement made in the mode of manipulation, so much so as to insure the sitter a portrait at each sitting.

STANZAS.

Suggested by seeing a Chair, constructed from a Beam of the House, at Liverpool, in which Roscoe the Poet was born; now in the possession of T. Mayer, Esq., Liverpool.

BY JAMES STONEHOUSE.

This chair, that the hand of skill, science, and taste,
Has laboured with sculpture so fair to adorn,
Was once a broad timber, which strongly embraced
The house where a poet most hallowed was born.

Beneath it he gambolled in life's early morning,
And frolicked the time of his childhood away;
Then heedless of knowledge, all discipline scorning,
He dwelt—till his talents burst forth into day.

'Twas there that the soul caught some glimpses of glory,
Perchance the first touch to his harp the bard gave;
And the wish was engendered of living in story
As waking the world to the wrongs of the slave.

Then little he thought, from its deepest recesses,
His genius was destined to drag to the light
The learning that Italy richly possesses,
Where fiction and fact both in beauty unite.

Then take not this chair! let no mortal profane it,
Who friendship with art or with song
cannot claim;
Oh! worthy alone is that man to retain it,
Who "Roscoe" can cherish, in mem'ry and name.

RAILWAYS.—The returns of traffic for the week on the principal lines are as follow:—Northern and Eastern, 1,159*l.*; Greenwich, 684*l.*; Eastern Counties, 832*l.*; Croydon, 204*l.*; Liverpool and Manchester, 3,685*l.*; Brighton, 2,196*l.*; Grand Junction, 7,007*l.*; York and North Midland, 1,359*l.*; Blackwall, 463*l.*; Great North of England, 1,109*l.*; Manchester and Leeds, 4,060*l.*; Midland Counties, 2,076*l.*; Edinburgh and Glasgow, 1,682*l.*; Birmingham and Gloucester, 1,520*l.*; Birmingham and Derby, 1,142*l.*; North Midland, 3,376*l.*; South Western, 4,203*l.*; Great Western, 10,517*l.*; London and Birmingham, 12,969*l.*; South Eastern and Dover, 1,295*l.*; Manchester and Birmingham, 2,253*l.*—The final official inspection of the new portion of the Eastern Counties Railway, from Brentwood to Colchester, was made on the 8th instant, by Major-General Pasley, the Inspector-General of railways, accompanied by the directors and engineer of the line. On the following day the first cargo of live stock was transmitted from Colchester to Smithfield, and it is understood that the whole line will be opened for passenger traffic on Monday next.—Casting up the weekly amount taken by the railways as above (which are few in comparison to the whole laid down in Great Britain) we find they give 63,705*l.*, or the enormous sum of 3,912,660*l.* annually; to this must be added the cost of travelling to and from the stations by omnibuses and other conveyances. All the coaching in the united kingdom could not possibly have produced such a circulation of money in the same space of time, or have employed a tithe of the people necessary to uphold a railroad in all its branches of engineers, drivers, police, labourers, &c.

Human Decay.—At St Thomas's Hospital, on Wednesday evening, a conversation was given, at which Dr George Gregory read some observations 'On the Laws which govern the Mode and Rate of Decay in the Human Frame.' In an able discourse, rich in varied information, he showed that the same Mighty Power which presided over the formation of man to mould him into symmetry, had with equal indulgence provided means for the extinction of life, to save him in ordinary cases from the pain of dying from total exhaustion; which, when it did occur, too frequently exemplified the words of the poet that—

"Protracted life is but protracted woe."



Arms. On a fesse sa., a castle triple-towered, ar. *Crest.* A tower ar. from the battlements, a chaplet of laurel ppr. *Supporters.* Dexter, a lion ar. murally crowned or, gorged with a wreath of oak, fructed, ppr.; sinister, a horse ar. bridled and saddled ppr., murally gorged gu. *Motto.* "Avancez." Advance.

THE NOBLE HOUSE OF HILL.
The residence of this noble family in the county of Salop has been traced back to the time of Henry III. Formerly the name, instead of Hill, was spelt Hull. One of the family, named Humphrey, lived in the reign of Henry V. From him the present family have descended; but he to whom future generations may be expected to look back with most reverence and admiration is its late wearer, the Baron recently deceased, who placed it on the proud roll of the nobles of England.

Rowland Hill entered the army in 1790, by joining the 38th Regiment. His promotion was rapid. He was in the unfortunate expedition to Toulon, and was sent home with despatches from Sir David Dundas when that place was evacuated. He served under Abercromby in Egypt, with the 90th Regiment. In the battle of Alexandria he was wounded rather seriously by a spent ball. On the 1st of Jan. in the following year he was promoted to a Brevet-Colonelcy, and with the rank of Brigadier-General was appointed to the Irish staff. On being made a Major-General he was placed upon Lord Cathcart's staff, on the occasion of his expedition to Hanover.

The great scene of his glory was the Peninsula, for which he sailed from Cork in 1808. He was in the battles of Rolica and Vimiera, fought by Sir Arthur Wellesley; and he commanded a corps under Sir John Moore during his retreat, and the reserve at Corunna. When Sir Arthur returned to Portugal, General Hill accompanied him; and in the passage of the Douro, May 12, 1809, on Sir Edward Paget being wounded, succeeded to his command. He successfully withheld superior numbers till additional forces came to his assistance, and compelled Soult to retreat.

At Talavera he was wounded, and the manner in which he repulsed the most determined attacks of the enemy greatly added to his reputation. His surprise of

Arrayo de Molinas was a masterly operation. It was deemed a singular coincidence that in that affair a battalion of the 34th French Regiment was attacked and taken by a wing of the English 34th. In destroying the bridge of boats at Almarez, by which Marshal Marmont had secured the passage of the Tagus, he was next conspicuous for his activity, valour, and success. On the Nive, in the battle of December 13, 1813, he was greatly distinguished. Soult was here again his opponent, and was compelled to retire, with the loss of two pieces of artillery. Lord Wellington, who arrived on the spot immediately after the action, congratulated the victor on the triumph, by the exclamation, "Hill, the day's your own." In numerous other instances he nobly sustained the character of the British army.

In requital of his services he received the Grand Cross of the Bath, the government of Blackness Castle, the Portuguese order of the Tower and Sword, the freedom of the city of London, and the government of Hull. He closed his useful career as Commander-in-Chief, where his unceasing attention to the efficiency of the army commanded the esteem and admiration of all parties. His death is so recent that here it is unnecessary to recall the feelings which it inspired among all classes in the service. He was raised to the Peerage, May 17, 1814, as Baron Hill. A second patent was granted to his Lordship, January 16, 1816, conferring a similar distinction, with the additional designation of Hardwicke, and in remainder to the male issue of his deceased brother.

Teignmouth.—The religious sect which sprung up a few years since in Devonshire, under the name of the "Plymouth Brethren," have established a branch chapel in this town. Lord Congleton preached in it on Sunday last, and it already numbers a very large congregation.

Reviews.

Heathen Mythology Illustrated. Willoughby and Co.

This is a very pretty and a very useful book. The march of literature renders some knowledge of classic story necessary to those who do not pretend to be scholars, and here much information of the ancient gods, goddesses, and heroes is furnished in unaffected, intelligible language, and impressed on the mind by nearly two hundred engravings. Such a work must be acceptable to old or young. The child who is too young to read will be amused with the lively pictorial representations which almost every page exhibits. Some of the embellishments are of a superior order. The Bacchantes are presented to us in the accompanying spirited group (a), the freshness and the animation of which must strike everyone. The specimens which follow, representing Amphitrite and her Dolphin (b), and the abduction of Proserpine by Pluto (c), will give some idea of the varied entertainment here prepared for them.

It is, however, but justice to say that if the embellishments, so profusely supplied, were withdrawn, the publication before us would still be valuable. The stories of the Heathen Mythology are told with clearness and delicacy, and with admirable tact the compiler has enriched his pages with apposite quotations from the works of our most approved English bards. Vast industry in this respect has been exercised. He might almost be allowed to boast, in the words of Dr Johnson, that "He has made a Commodore - Anson - voyage round the whole world of English poetry," for hardly one poet of acknowledged eminence has escaped being made a contributor to this volume, which in fact is, besides being what it is considered, a new collection of "elegant extracts." The votaries of the Muses will



THE BACCHANTES. (a)



AMPHITRITE AND HER DOLPHIN. (b)



ABDUCTION OF PROSERPINE BY PLUTO. (c)

find a rich treat in the modern beauties which follow in the train of venerable antiquity. We believe the plan on which it has been done is novel, but it is one that well deserves to be imitated, and for those who wish to add to their classic stores of knowledge in the pleasantest way possible, the 'Heathen Mythology' may be fairly commended as a treasure which would be cheaply purchased at three or four times its price.

Letters on South America; comprising Travels on the Banks of the Paraná and Rio de la Plata.

This work is a history of twenty-five years' residence in the regions which pour their waters into the *Rio de la Plata*. We shall content ourselves with taking a few entertaining extracts. In the year 1815, when one of the authors landed at Paraná with merchandise, the disturbed state of the country made it doubtful whether he should realize a farthing, or be a sacrifice himself, when an unexpected visitor appeared.

"Sitting one evening under the corridor of my house, there came up to my very chair, on horseback, a tall, raw-boned, ferocious looking man, in Gaucho attire, with two cavalry pistols stuck in his girdle, a sabre in a rusty steel scabbard, pending from a besmeared belt of half-tanned leather, red whiskers and mustachios, hair uncombed of the same colour, matted with perspiration, and powdered with dust. His face was not only burnt almost to blackness by the sun, but it was blistered to the eyes; while large pieces of shrivelled skin stood ready to fall from his parched lips. He wore a pair of plain ear-rings, a foraging cap, a tattered poncho, blue jacket with tarnished red facings, a large knife in a leather sheath, a pair of potro boots, and rusty iron spurs, with rowels an inch and a half in diameter. His horse was a noble animal, and sweated profusely. His gored sides were panting, his nostrils distended; he champed his enormous bit, tossing his head till he foamed at the mouth, and besprinkled both his own body and that of his master with froth."

This man turned out to be an Irishman, long resident in the country, and was afterwards the chief instrument of our author's success.

The method resorted to by the South Americans for killing the wild cattle is curious.

"For shelter during the night they invariably took to the woods, and the 'matanza,' or slaughter of them took place there during the summer months, and by moonlight. When the night was clear—and it was seldom otherwise—a number of men, varying according to the quantity of cattle collected, or hides wanted, put on a

sort of front armour of hide, so as to enable them to scramble in among the thorny trees without lacerating their bodies. The woods consist almost exclusively of mimossas, including many varieties of the thorny acacia. When the men got in among the trees where the cattle were reposing, they crawled on their knees and hands among the sleeping tenants of the woods; and armed with sharp knives, they stuck them in the throats, left them to bleed to death, and returned in the morning to flay them. These men carried, also, a kind of hide shield, to defend them in the event of an attack from any of the roused bulls, should they suddenly turn round upon them. There was a picturesque barbarity in the operation; but it was comparatively easy work to that of slaughtering the wild horses,—the noble and unrestrained, but nevertheless doomed tenants of their native forests. At the time of our sojourn in Corrientes, these wild horses and mares had so overrun the country, that it was not uncommon to find particular herds of them of five to ten thousand in number."

Speaking of the value of the hides of horses.

"The dried *hide* became more valuable than the animal itself, for there was to add to the original cost all the expense of slaughter, curing the hide, carting, &c. For a great proportion of ours in Corrientes and Goya, we paid one dollar to ten rials the *pesuda*, a weight of thirty-five pounds, equal to about three halfpence per pound. Three months afterwards they were sold in Buenos Ayres at about fivepence halfpenny per pound; and perhaps six months after that they were sold in Liverpool and London at from ninepence to twopence per pound, to the tanners. Supposing one hide with another to give twenty shillings, it then produced exactly ten times the amount which the South American country gentleman received for the whole animal on his estate. I have still in my possession a contract which I made in Goya, with an estanciero, for twenty thousand wild horses, to be taken on his estate at the price of a *medio* each; that is to say, threepence for each live horse or mare. The slaughter of them cost threepence a head more; the staking and cleaning the hides, once more, threepence; and lastly, a like sum for the carting to Goya, making the whole cost one shilling for each skin. Of this contract ten thousand animals were delivered; the skins were packed in bales, and sold in Buenos Ayres at six rials or three shillings each, and they sold ultimately in England for seven or eight shillings; that is, the skins sold for about 2,800 to 3,000 per cent. on the first cost of the horse from which the skin was taken. Such is the accumulative value sometimes

of the produce which is taken from the hands of the grower in one country before it gets into the hands of the consumer in another."

The author gives a curious picture of the Pampa Indians, as to their food.

" You might fancy yourself in the Pampas, see assembled in a large yard, not unlike a knacker's, the tattered and half-naked Indians of the Pampas ; two mares they have just killed for dinner, which they are cutting up with more avidity than precision. They live almost entirely on mare's flesh, a dainty which they prefer to all others. Now comes the maté, the cigar, and best of all, the raw spirits, which they never leave until finished ; they then wrap themselves in their ponchoo, each with his better half, if he have one, round a blazing fire in winter, and in the summer under the light of the moon."

A SISTER'S LOVE.

(Continued).

But various, antic, and extraordinary as are the habiliments with which Africa, America, and even Europe are laid under contribution to supply on the occasion, it would have puzzled the most original "John Canoe" of them all to don a garment at once so strange and so familiar to the eye of Evelyn as that in which she presently saw the female stranger to be enveloped. No sooner was she within the precincts of the verandah, than dropping the hood of the Irish cloak, at sight of which alone Evelyn's heart had fluttered almost to bursting—Aileen, thin, pale, and altered in all save warmth of affection, stood as a ghost from the grave before her bewildered sister!

Unlike in external fortunes and outward semblance as the once undistinguishable twins of Letrewel had become, they were still one in warmth of heart and feeling ; and again it was the affectionate Evelyn's eager inquiries about her sister's envied children.

" It is well with the children," sobbed out the mother, whose pride they had so lately been ; " they are all, save one, with God. But their father—Moriarty ! "—and here sobs checked the utterance of Aileen, and she in return fell, in a bitterness of grief which knew no respect of persons, on the jewelled neck of her scarcely less agitated sister.

" Aileen mavourneen ! " cried the latter fondly—" what means this distress ? Is your husband ill, or in danger, or—"half shuddering as led on by silence to rise in the climax of misfortune—" he is not dead ? "

" Not dead ! no, not yet—if grief and

shame haven't killed him since we parted—but a dead man, Evelyn dear, afore three days are over, if you, that seemed like a blessed angel, when I heard as in a dream that God had sent you and your's so nigh me in my sorrow, don't stretch forth a helping hand to me and mine ! "

" God forbid we should do otherwise, Aileen," replied her gentle sister, " when it's so much we both have owed to you in other days."

" You can save his life," gasped out the poor wife convulsively ; " you and none but you on earth have power to do it ; and you'll not let him die, Evelyn dear, even if to free him from death, *he* (meaning Sir Guy) must know that ye have and had a sister ! "

" Oh ! no, no ! God forbid I should be so selfish and hard-hearted ! " faltered the trembling Evelyn ; though, at the bare thought of the compulsory avowal which the promise involved, she felt lowered in the dust beneath the suppliant before her. " But how can *his* knowing do Moriarty good ? "

" Because he nor no soldier officer that ever knew and did his duty will pardon a man condemned for murder, unless"—and the modest Aileen hesitated—" unless she that bids him do it has good right to ask that same."

" And that you have, if ever woman had ! " exclaimed the conscious Evelyn. But—did you—could you say, Moriarty was a murderer ? "

" God forbid I should say so, and pardon them that did ! The blood he shed—and, God knows, in trying to save life—lies at another's door ; and yet, sister dear, men that never saw the thing happen, nor knew the nature of the creature, that he wouldn't hurt a fly, have brought him in guilty ; and die he must"—a strong shiver crossed her frame as she spoke—" on Thursday, if your blessed General doesn't rescue him out of their hands."

The tale which, by broken interrogatories, Evelyn extorted in equally disjointed fragments from her sister, was a sad, but in those days of licence and favouritism, a less uncommon instance than could now occur of the force of prejudice when combined with power.

Sergeant Carroll's regiment had but recently landed after dreadful hardships and fever, whose ravages had well nigh swept his humble hearth, from the coast of Africa, on an adjoining island to that of which Sir Guy was governor. A young commanding officer, whom interest, then all-powerful, had enabled to escape the African duty, finding it impossible to evade the West Indian, had joined with the worst possible grace a corps to the

THE MIRROR.

individuals of which, as well as their general habits, he was necessarily a stranger. Had he been amenable, under those circumstances, to advice, the unanimous voice of officers and men pointed out poor Carroll to fill the just-vacated situation of sergeant-major, for which his good conduct, mild temper, and general popularity eminently qualified him. But that very unanimity of recommendation assumed, to a foolish, head-strong *ignoramus* (for such the new major was) the air of dictation. A low-lived scrophulant was petulantly raised over the head of poor Moriarty, to the disgust of the whole regiment, and no doubt to his own secret disappointment.

Poor Carroll, nevertheless, all Irish as he was, bore the double mortification to his person and country like a perfect angel. A lad from the same part of the country took upon him, much to the annoyance of the pacific sergeant, the office of Moriarty's champion. Under the joint influence of cheap liquor, a hot temper, and a broiling sun, this rash lad, in a barracksquabble, had levelled his fire-lock at the obnoxious sergeant-major; Moriarty had interposed (as two persons, the culprit included, but who were both unfortunately his own countrymen, testified) to beat it down. In so doing it had accidentally gone off, and lodged the contents not in the heart but legs of the intended victim, whose death, though it unquestionably followed within a very few days, was far more justly attributable to new rum and a bad habit of body than to the unhappy accident of which Moriarty had been, in averting worse evil, the innocent cause.

The commandant, incensed at the loss of his *protégé*, got up such a case of insubordination, revenge, and *malice prepense*, against poor Moriarty, who had been heard to say, on the deceased's appointment (alluding to his incapacity), that "he doubted if he would be a month sergeant-major," that a tribunal of strangers, hastily assembled from other corps, and mystified by contradictory evidence, leaned, naturally perhaps, to the commanding officer's version, and found a verdict of guilty against poor Carroll.

The military governor of the island, to whom an appeal on behalf of the culprit would certainly have been made, was absent on a cruise for his health. The day fixed for the execution of the sentence was close at hand, and hope was well nigh dead in the bosom of the resigned and manly victim and his agonised wife, when some friendly visitor to the prison regretted that an attempt had not been made to interest in the cause the upright new governor of T——, Sir Guy Sydenham.

Aileen's heart bounded to her lips with renovated hope.

To get at Sir Guy within the given three days was, of course, her first object; and now did the Mermaid of Innismoran's early familiarity with ocean perils come once more to the aid of her womanly devotedness; for the small island of T——, being little frequented (except in crop-time) by anything deserving the name of shipping, the sole means of conveyance its harbour then afforded was a "caiaucu," or canoe, hollowed, with Indian simplicity of construction, out of one wild cotton tree, with length of course hugely disproportioned to its scanty breadth, and calculated for coasting purposes alone, yet in which, could a coadjutor be procured, the fearless wife was ready to brave the perils of a ten hours' run across the treacherous Caribbean sea.

A light steady breeze favoured the daring enterprise, and even in less time than had been allotted, Aileen stood under the roof of the arbiter of her husband's fate.

(To be concluded in our next.)

EARTHQUAKE IN CALABRIA,
IN 1638.

PERE KIRCHER, an eminent scholar, who lived at the beginning of the 17th century, has left an animated description of an earthquake which swallowed up a city, and in a few moments converted the site on which it stood into an offensive pool. The facts he states are so astounding that they cannot but command attention.

"Having hired a boat, in company with four others, we launched from the harbour of Messina, in Sicily, and arrived the same day at the promontory of Pelorus. Our destination was for the city of Euphemia, in Calabria, where we had some business, and where we designed to tarry for some time. However, Providence seemed willing to cross our design, for we were obliged to tarry three days at Pelorus on account of the weather; and though we often put out to sea, yet we were as often driven back. At length, wearied with the delay, we resolved to prosecute our voyage; and although the sea became more than usually agitated, we ventured forward. The gulf of Charibdis, which we approached, seemed whirled round in such a manner as to form a vast hollow, verging to a point in the centre. Proceeding onward, and turning my eyes to Etna, I saw it cast forth volumes of smoke of mountainous sizes, which entirely covered the island, and blotted out the very shores from my view. This, together with the dreadful noise, and the sulphurous stench which was strongly perceived, filled me with apprehensions that some more dreadful calamity was impending. The sea itself seemed to wear a very

unusual appearance; they who have seen a lake in a violent shower of rain, covered all over with bubbles, will conceive some idea of its agitations. My surprise was still increased by the calmness and serenity of the weather; not a breeze, not a cloud, which might be supposed to put all Nature thus into motion. I therefore warned my companions that an earthquake was approaching; and, after some time, making for the shore with all possible diligence, we landed at Tropea, happy and thankful for having escaped the threatened dangers of the sea.

"But our triumphs at land were of short duration; for we had scarcely arrived at the Jesuits' College in that city, when our ears were stunned with a horrid sound, resembling that of an infinite number of chariots, driven fiercely forward; the wheels rattling, and the thongs cracking. Soon after this, a most dreadful earthquake ensued; so that the whole tract upon which we stood seemed to vibrate as if we were in the scale of a balance that continued wavering. This motion, however, soon grew more violent; and being no longer able to keep my legs, I was thrown prostrate on the ground. In the meantime the universal ruin round me redoubled my amazement. The crash of falling houses, the tottering of towers, and the groans of the dying, all contributed to raise my terror and despair. On every side of me I saw nothing but a scene of ruin, and danger threatening wherever I should fly. I commended myself to God as my last refuge. At that hour, O how vain was every sublunary happiness! Wealth, honour, empire, wisdom, are mere useless sounds, and as empty as the bubbles in the deep! Just standing on the threshold of eternity, nothing but God was my pleasure; and the nearer I approached I only loved him the more. After some time, however, finding that I remained unhurt amid the general concussion, I resolved to venture for safety; and running as fast as I could, I reached the shore, but almost terrified out of my reason. I did not search long here till I found the boat in which I had landed; and my companions also, whose terrors were even greater than mine. Our meeting was not of that kind where every one is desirous of telling his own happy escape; it was all silence, and a gloomy apprehension of impending terrors.

"Leaving this seat of desolation, we prosecuted our voyage along the coast; and the next day came to Rochetta, where we landed, although the earth still continued in violent agitations. But we had scarcely arrived at our inn when we were once more obliged to return to the boat: and in about half an hour we saw the greater part of the town, and the inn at which we had

set up, dashed to the ground, and burying the inhabitants beneath the ruins.

"In this manner, proceeding onward in our little vessel, finding no safety on land, and yet, from the smallness of our boat, having but a very dangerous continuance at sea, we at length landed at Lopizium, a castle midway between Tropea and Euphemia, the city to which, as I said before, we were bound. Here, wherever I turned my eyes, nothing but scenes of ruin and horror appeared; towns and castles levelled to the ground; Strombolo, though at sixty miles' distance, belching forth flames in an unusual manner, and with a noise which I could distinctly hear. But my attention was quickly turned from more remote to contiguous danger. The rumbling sound of an approaching earthquake, which we by this time were grown acquainted with, alarmed us for the consequences; it every moment seemed to grow louder, and to approach nearer. The place on which we stood now began to shake dreadfully, so that, being unable to stand, my companions and I caught hold of whatever shrub grew next to us, and supported ourselves in that manner.

"After some time, this violent paroxysm ceasing, we again stood out, in order to prosecute our voyage to Euphemia, which lay within sight. In the meantime, while we were preparing for this purpose, I turned my eyes towards the city, but could see only a frightful dark cloud that seemed to rest upon the place. This the more surprised us, as the weather was so very serene. We waited, therefore, till the cloud had passed away: then turning to look for the city, it was totally sunk. Wonderful to tell! nothing but a dismal and putrid lake was seen where it stood. We looked about to find some one that could tell us of its sad catastrophe, but could see no person. All was melancholy solitude—a scene of hideous desolation. Thus proceeding pensively along in quest of some human being that could give us a little information, we at length saw a boy sitting by the shore, and appearing stupefied with terror. Of him, therefore, we inquired concerning the fate of the city; but he could not be prevailed on to give us an answer. We entreated him with every expression of tenderness and pity to tell us, but his senses were quite wrapped up in the contemplation of the danger he had escaped. We offered him some victuals, but he seemed to loathe the sight. We still persisted in our offices of kindness, but he only pointed to the place of the city like one out of his senses, and then running up into the woods, was never heard of after. Such was the fate of the city of Euphemia; and as we continued our melancholy course along the shore, the whole coast, for the space of 200

miles, presented nothing but the remains of cities, and men scattered, without a habitation, over the fields. Proceeding thus along, we at length ended our distressful voyage by arriving at Naples, after having escaped a thousand dangers by sea and land."

Kircher we have already mentioned as a well known scholar. It is proper to add that he was devotedly fond of antiquarian lore. "Everything," says his French biographer, "that was ancient, he regarded as divine." Aware of this, some students played off a trick on him which Sir Walter Scott afterwards introduced into his novel of 'The Antiquary.' They traced some fanciful characters on a stone, and concealed it in a place on which they knew it was intended shortly to build. In due time the buried stone was discovered, and submitted to Kircher, who applied himself to ascertain the meaning of the mysterious hieroglyphics which it bore. He laboured with great assiduity, and at last satisfied himself that he had completely succeeded, and furnished a very sublime interpretation to that which had really no meaning at all. On another occasion they brought before him a leaf of Chinese paper, on which were written certain characters, which, though he thought he understood the Chinese language, he could not decipher. They then showed that the characters had been reversed, and, holding it before a glass, he read them without difficulty.

These facts exhibit the character of the man in such a light, that every one must feel to have been in a scene like that above described, must have delighted his classical heart. His narrative will remind many of our readers of the younger Pliny's graphic picture (most likely studiously imitated) of that awful moment when a city was overwhelmed by ashes, instead of being, like Euphemia, immersed in water.

Miscellaneous.

THE PARTHENON.—*Phidias*, to whom was confided the accomplishment of this vast design, employed Callicrates and Ictinus as the architects: Alcamenes, Agoracritus, Colotes, and other artists of equal eminence, were associated with himself in its external decorations: while the statue of the goddess, for the interior, was reserved for his own hands. Of no other work has superiority been assented to with the same degree of unanimity; and certainly of all the known productions in Art, the sculptures of the Parthenon approach nearest to perfection. The great care bestowed upon the execution strikes us with astonishment when it is remembered that, in many in-

stances, more especially in the eagles of the pediment, the greater part of the work must have been totally out of sight; and those portions which could be fully viewed, were, at the nearest point, not less than 120 feet from the spectator. We learn from the authority of several writers, that a custom prevailed of exposing works to public view before they were placed in the situations they were destined to occupy; and the ambition the artist would naturally feel to excel, may be adduced as a sufficient motive for the extreme finish throughout of these statues. But, we may reasonably infer, that a much higher feeling—the sanctity of the edifice, and the glory of being associated with a work proposed to surpass all others in magnificence, and to be raised in honour, not only of the divinity presiding over Athens, but at the same time, the immediate protectress of the Arts themselves—would prevail over every other minor motive to call forth the highest energies of the artist. The form of this temple was hypothral, or in part open to the sky. It was about 200 feet in length, 100 in breadth, and 53 feet in height to the base line of the tympanum, and 72 feet to the apex. The height from the ground to the metopes and Panathenaic frieze was about 46 feet. The latter received its light chiefly by reflection, and from between the columns of the peristyle. The entrance was at the east end, a custom, it appears, observed in all Athenian temples, in contradistinction to the Dorian Greeks, who entered at the west, and addressed the Deity with their faces towards the east, as is generally practised, at this time, in Christian communities.—*Westmacott's Lectures*.

PICTORIAL NEWSPAPERS.—The rage for illustration of works has now found its way into the weekly press. The success of the 'London Weekly News' has brought forward many other papers. The 'Illustrated Polytechnic Review' is a paper wanted, in which the illustrations, particularly in matters of machinery or scientific apparatus, must greatly assist elucidation of the subject. The last number is well got up, and very instructive. Among the latest pictorial, one is particularly worthy of notice, 'The Illustrated Weekly Times.' The cuts are most appropriate and happily timed. It might be imagined they are got up by steam, for although a week had not elapsed since the news of the earthquake arrived, they had some beautiful engravings connected with the interesting subject.

CHINA.—From Hong-Kong we have favourable accounts of the rapid advancement of this, the newest of our colonial possessions. An English weekly newspaper has been regularly published for nearly a year, and the advertisements give a curious insight into the progress and re-

quirements of civilisation in that distant island. Among the announcements are the European comforts of *soap*, *candles*, *claret*, *champagne*, an *hotel*, a *solicitor*, and the sale of "A *Manilla* horse, an *Amoy* mare and colt, and an *omnibus*!" The following advertisement, announcing the progress of a theatre, may amuse our readers:—"Advance Hong-Kong!!!—Theatre Royal. Messrs Dutronquoy and Co. have at length the satisfaction of announcing to the nobility, gentry, and clergy of this flourishing and opulent colony, that their theatre is advancing most rapidly towards completion. It is on a most splendid scale, and what with the pieces that will be performed, the scenery that will be introduced, and the splendid assemblage of rank, beauty, and fashion which they hope to be honoured with, there is no doubt but that the blaze of splendour will dazzle the eyes of all beholders.—*VIVAT REGINA!*—N.B. The actresses have arrived during the last week—their beauties and talents are only to be surpassed by their spotless virtues." It would be as well if we could apply the last sentence to our nymphs of the stage.

"THE WISDOM OF THE NATION IS FOOLISHNESS."—In the year 1671, a pamphlet was published under this title against the abuses which were said to have crept in among medical men. As a fair specimen of the charges then made on their hapless patients the following is given:—

"Apothecary's bill for attending Mr Dalby, of Ludgate hill, five days, total amount, 17*l.* 2*s.* 10*d.*"

"The following are the items of medicines for one day—

	a. d.
An emulsion	4 6
A mucilage	3 4
Gelly of hartaborn	4 0
Plaster to dress blister	1 0
An emollient	2 6
An ivory pipe armed	1 0
A cordial bolus	2 6
The same again	2 6
A cordial draught	2 4
The same again	2 4
Another bolus	2 6
Another draught	2 4
A glass of cordial spirits	3 6
Blistering plaster to the arms	5 0
The same to the wrists	5 0
Two boluses again	5 0
Two draughts again	4 8
Another emulsion	4 6
Another pearl julep	4 6"

MIRROR LEVITIES.

The Plum-Bunn Theatre.—Mr Gregory, who was lately so violently opposed when he attempted to perform *Hamlet*, is consol'd for that annoyance, if report be true, by a legacy of more than a hundred thousand pounds! Resolute to obtain a hearing on

the stage, he now says, if every existing theatre should be closed against him, he will erect one for himself. The new play-house, if built, as it will rise in consequence of the bequest above-mentioned, and the course pursued by Mr Bunn, it may not be improper to name the "Plum-Bunn Theatre."

ON THE PUBLICATION OF VON WEBER'S POSTHUMOUS WORKS BY THEODORE HELL.

A speech more singular than droll—

Poor Weber made, his cronies tell;

"By prayer I hope to save my soul,

The works I leave must go to Hell."

DOG HOUSE LAME.

"If passed the Dog-Cart Drawing Bill,

The butchers all the dogs will kill,

Their customers to cram."

So Berkeley thinks, folks understand,

And thus he says to all the land—

"Mind how you eat house-lamb."

This hint—a searching one, no doubt—

The butchers all agree to scout;

They say, "Our hearts can feel—

We, did we not the charge despite,

Might as well say, "When Berkeley dies,

Take care how you eat *real*."

LYNX.

The Gather.

Rossini's Art.—This admired composer is accused of perpetually repeating the same ideas of modulation in different shapes, which is described to be revolving and re-revolving within a very narrow sphere. Yet such was the perfection of his efforts so cramped, that when only four-and-twenty years of age, he was hailed as a prodigy by the whole musical world!

Roman History.—Livy, commencing the second half of the first decade of his history, observes that what he had previously related was obscure by reason of antiquity, and resembled objects seen at a great distance. This obscurity he attributes to two circumstances; one, that writing was rare in those times—the other, that the little which was preserved in the commentaries of the Pontifices, and the other public and private monuments, had mostly perished in the conflagration of the city by the Gauls.

Irish Flax Society.—We have received a report of the proceedings of this Society for 1842, from which we collect that the growth of flax in Ireland is becoming of greater importance every year, chiefly through the assistance offered by the friends of the Society. Belgian flax-growers and dressers have been brought over for the purpose of teaching the Irish how to cultivate and prepare it in the manner practised in that country; and

young Irishmen have been sent to Belgium to acquire knowledge on the spot. There is no doubt that flax may be grown as well in this country as in Flanders, and we should expect it to prove, under good management, very remunerating.

Syria.—Intelligence from Beyrouth, of the 8th ult., mentions that Bishop Alexander was still there, awaiting the arrival of the imperial firman, authorizing him to proceed with the construction of the Protestant church at Jerusalem. The schismatical Greeks of Lebanon had petitioned Assad Pasha to be allowed to appoint a chief of their own religion. The Catholic Greeks had refused to acknowledge the Maronite Kaimacan.

Lettish Proverbs.—Some of the sayings that fly loose among the inhabitants of the North, called the Lettish people, are rather pointed. A few are transcribed.

“ You cannot make soup out of a hand-some face.”

“ To taste the sweet you must eat the bitter.”

“ Death can take nothing from an empty room.”

“ Boast of the day till it has come to an end.”

“ Women have long hair, but short thoughts.”

Sufferers at Point à Pitre.—The French Government have lost no time in aiding the sufferers; and the Chamber of Deputies have been called upon to vote 2,500,000 francs. The King of the French has subscribed 20,000 francs; the Queen, 10,000 francs; the Duke and Duchess de Nemours, 3,000 francs; the Duke de Montpensier, 1,000 francs; and Princess Clementine, 1,000 francs; besides which, a strong subscription is going on in the capital and France generally.

Explanation of the Phenomenon of Life.—This world is a stage on which spirits come to act a part, and then withdraw.—*Thibault.*

Natural Magic.—Mr Andrew Coventry in a letter to the agricultural interest of Scotland, mentions that, among the objects which now occupy the scientific world, there is one for converting starch into cane sugar. In France, small beer and brandy are now produced on a great scale from potatoes.

City Improvements.—All the obstructions between the Mansion house and the new Royal Exchange will be cleared away within a fortnight; and the late Sir F. Chantrey's equestrian group of the Duke of Wellington, to be erected by the City in gratitude for his Grace's services, will be opened on the 18th June.

Bonaparte at Cards.—Napoleon loved *vingt-un* because it was rapid in its progress, and because it gave him an opportunity of *cheating*. He laughed a good deal

at his roguery when he was not found out; and the spirit of the courtier had, even before he became Emperor, made such progress in his suite, that they often voluntarily shut their eyes upon his small generalship. Gain was not his object: at the end of the game he restored his winnings; it was his fortune that he could not bear to frown upon him any more in a game of cards than on a field of battle. Fortune owed him an ace or a ten as she owed him fine weather on the day of an engagement; and if she did not give it, nobody was to see it.

Origin of Steam.—When the Marquis of Worcester was a state prisoner in the Tower, he one day observed, while his meal was preparing, that the cover of the vessel being tight, was, by the expansion of the steam, suddenly forced off, and driven up the chimney. His inventive mind was led on to a train of thought, obscurely exhibited in his ‘Century of Inventions,’ which were successively wrought out by the meditations of others; and an incident, to which we can hardly make a formal reference without a risible emotion, terminated in the noblest instance of mechanical power.

Love of Art.—The young and classical sculptor who raised the statue of Charles II, in the centre of the late Royal Exchange, was, in the midst of his work, advised by his medical friends to desist, for his exertions had made fatal inroads on his constitution; but he was willing, he said, to die at the foot of his statue. The statue was raised, and the young sculptor, with the shining eye and hectic flush of consumption, beheld it there—returned home—and died!

—The artists have finished the decorations of the superb new saloon in the southern wing of the Hotel de Ville at Paris, which is for the future to be called the *Salon Napoléon*.

—There are 11 millions of landowners in France, of whom one-half do not pay more than five francs per annum each in taxes. The average size of the different estates is about $12\frac{1}{2}$ English acres.

TO CORRESPONDENTS.

The hints of a “Reader and Subscriber since 1828” are taken in good part. Some of them will be attended to, but he is not infallible, and we could show opinions diametrically opposed to his, from those whose judgment he would be likely to deem as much entitled to respectful attention as his own.

An Old Correspondent is thanked for his congratulations and kind offer, but the poetry he has sent will not suit ‘The Mirror.’

L. N.'s elegiac stanzas are declined.

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